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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,900	08/28/2003	Mamoru Amano	004476.00019	5633

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BANNER & WITCOFF
1001 G STREET N W
SUITE 1100
WASHINGTON, DC 20001

EXAMINER

CARIASO, ALAN B

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,900

Applicant(s)

AMANO ET AL.

Examiner

Alan Cariaso

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 11, 13, 20-22 and 26 is/are rejected.
- 7) ☒ Claim(s) 3-10, 12, 14-19, 23-25 and 27-34 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 10 and 17 are objected to because of the following informalities:
3. Claim 10, the part "the harness-connecting portion" (both occurrences on lines 2-3) should either be addressed with ~~a~~—(delete "the") or provided with a preceding reference.
4. Claim 17 depends on claim 15, but refers to "the harness-connecting portion" not claimed in claim 15 but in claim 16. It appears claim 17 should depend on claim 16 so as to proper precedence to the "harness-connecting portion".
5. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over MOON et al (US 6,749,315 B2).

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8. MOON discloses a socket assembly for a fluorescent lamp comprising: a first socket assembly including a first socket (155a, figs.5D,5E) which is composed of a soft elastic bar shape conductor (col.5, lines 40-49) which is provided with a plurality of lamp inserting holes (formed by joined recesses as viewed in fig.4, or openings 155b in fig.5D) along a longitudinal direction, and a first socket holder (341b-fig.5D; 441b-fig.5E) in which the socket (155a) is received; and a socket assembly (col.5, lines 31-32) of same construction and which faces the first socket assembly with a space (41a,41b-fig.4); wherein a plurality of fixing protrusions (145a-figs.5D & 5E) are provided along a longitudinal direction on the first or second socket holder (341b,441b), and a plurality of fixing holes (155b) having an opening area. However, MOON does not disclose: these first and second socket holders each made of an insulator having higher rigidity than the socket (155a); the fixing holes having an opening area somewhat smaller than the cross section of the fixing protrusions.

9. In regards to the insulator of higher rigidity, MOON teaches at least lower supports (541a, 541b, fig.6) and lower holders (591a, 591b, 591c, fig.6) made of synthetic resin functioning as reflective plates (col.6, lines 30-34), and for the purpose of forming a rigid and protective support that hold in the luminescent lamps (531) in position and brace against the elastic material (555 or 155a) made to be elastic to prevent the luminescent lamps from being damaged by external impact (col.5, lines 42-43). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the sets of elastic sockets of MOON '315 to include the insulator material (synthetic resin) being more rigid type of socket holder or lower

supports as taught by MOON '315 in order to reflect light and to form a rigid support that keep the luminescent light sources in position for proper illumination of the LCD and protection against external impact while brace against the elastic material of the sockets adjacent the lamps.

10. In regards to the smaller opening of the fixing holes, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the lamp holding socket assembly of MOON '315 to include smaller or equal area size fixing holes relative to the cross sectional area of the fixing protrusions on the socket holder since it is well known in the art of illumination to form a tight fit between the elastic member adjacent the lamp and the holding support in order to effectively absorb shock or vibration from external impact so as to maximize protection of the lamp.

11. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over MOON et al (US 6,749,315 B2) as applied to claims 13 and 20 above, and further in view of YASUDA et al (US 6,794,801).

12. MOON '315 discloses the claimed invention including the first or second socket holder (341b) being of insulator material (synthetic resin in col.6, lines 30-34) and being constructed to cover the side face (outer or right side in fig.5D) of the first and second socket (155a) except for the face where the plurality of lamp insertion holes are open. However, MOON does not disclose: the first and second holder being made of a flame resistant insulator.

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13. YASUDA teaches a fluorescent lamp housing (10-figs.1,4,5,7) made of heat-resistant synthetic resin (col.8, line 57-59, col.15, lines 19-25) or holder (40-figs.1,4,5,7, col.13, lines 41-57) made of flame-retarding synthetic resin, in combination with a silicone resin (70, cols.11-14) for the purpose of forming a stable operational fluorescent lamp holder device bearing high temperatures of its operation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the lamp holding socket assembly of MOON et al '315 including the flame-retarding synthetic resin as taught by YASUDA et al in order to maintain stable operation of the fluorescent lamp and housing assembly by bearing against the high temperature operation of the fluorescent lamp(s).

14. Claims 1, 2, 11, 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over MOON et al (US 6,749,315 B2) as applied to claims 13 and 20 above, and further in view of SKINNER et al (US 6,341,879).

15. MOON '315 discloses the claimed invention including a plurality of fluorescent lamps having a glass lamp vessel both ends of which is inserted in one of the plurality of lamp inserting holes of the first and second socket assembly, and the plurality of fluorescent lamps (31,531,631) being a CCFL would define a dielectric barrier type discharge lamp having a glass lamp vessel (33a, fig.3B) with external electrodes (33b,33c) on both ends (fig.3B), and a liquid crystal display panel (col.6, lines 22-25, 38-39) arranged in the vicinity of the plurality of the fluorescent lamps (31,531,631). However, MOON does not disclose a high frequency power source.

16. SKINNER teaches a high frequency power source (ballast 26-fig.2b, col.4, lines 4-5) for the purpose of supplying high frequency voltage between the first and second ends (27-fig.2b) of a plurality of fluorescent lamps (23). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the plural fluorescent lamp holding assembly of MOON et al '315 including a high frequency power source as taught by SKINNER et al in order to operate all the plurality of fluorescent lamps with the proper high frequency voltage.

Allowable Subject Matter

17. Claims 3-10, 12, 14-19, 23-25 and 27-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art of record suggests: (a) a socket made of conductive rubber molded by silicone rubber mixed with carbon black forming a socket in each first and second socket assemblies facing each other (claims 3-5, 14-19, 23, 24, 33 and 34); (b) a concave portion formed at an end of the socket and a metal fitting for screwing the harness terminal connected with the high frequency power source (claims 6-9 and 27-30); (c) the harness-connecting portion provided on one end portion of the first socket and on one end portion of the second socket located at an opposite side of the end portion of the first socket, so that each circuit for supplying a high frequency voltage to

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each of the discharge lamps from the high frequency power source has nearly equal circuit length (claims 10, 12, 25, 31 and 32).

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. OZAWA (US 5,805,251) shows a pair of spaced elastic conductors of bar-shape (52) electrically connected between an LCD (30) and circuit board (50), each elongate conductor (52) being an electrically conductive silicone rubber (col.7, line 56 to col.8, line 4) formed of sheets of conductive carbon fibers (3-20 microns) within an insulation silicone rubber. NELLIS et al (US 3,680,037) shows an electrical interconnector composed of dielectric material (42,52) and contact elements (44) or conductive plastic elements (54), the dielectric retainer being made of silicone rubber embedded with chunks of similar silicone rubber and finely dispersed conductive metal such as silver flake (col.2, lines 25-31) of particular weight ratios (col.2, lines 32-42). MOON (US 6,796,678) shows first and second lamp sockets (41a,41b, fig.4; made of elastic material as in rubber (col.4, lines 34-36) with lamp holders (42) forming conductive holes (36) for fixing opposite ends of a plurality of fluorescent lamps (31), and further having an elongate socket holder (55, fig.12). SAITO et al (US 6,441,874) show a fluorescent lamp socket (9) made of elastic or silicone rubber material that includes contact terminals. VOLLKOMMER et al (US 5,604,410) show discharge lamp of the dielectric barrier or impeded type with polar electrodes. TAKANO et al (JP

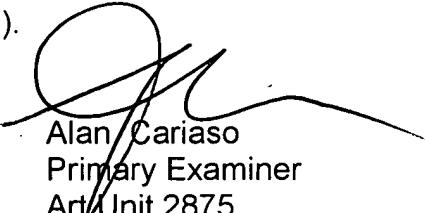
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06150989A) show wire-harness connection (12, fig.1) to an end of load device (21) via a metal fitting (42).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Cariaso whose telephone number is (571) 272-2366. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alan Cariaso
Primary Examiner
Art Unit 2875

AC
March 18, 2005